

MIL-B-43311E
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SUPERSEDING
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MILITARY SPECIFICATION

BEEF, DICED, DEHYDRATED, UNCOOKED

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This document covers uncooked, freeze-dehydrated, diced beef for use by the Department of Defense as a component of operational rations.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Documents. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

FEDERAL

TT-C-495	- Coatings, Exterior, for Tinned Food Cans
PPP-B-636	- Boxes, Shipping, Fiberboard

MILITARY

MIL-L-1497	- Labeling of Metal Cans for Subsistence Items
MIL-L-35078	- Loads, Unit: Preparation of Semiperishable Subsistence Items; Clothing, Personal Equipment and Equipage; General Specification For

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5014, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8905

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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ENVIRONMENTAL PROTECTION AGENCY (EPA)

National Primary Drinking Water Regulations

(Application for copies should be addressed to the Office of Drinking Water, Environmental Protection Agency, WH550, 401 M Street S.W., Washington, DC 20460.)

- * 2.2 Other publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted shall be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS shall be the issues of the nongovernment documents which are current on the date of the solicitation.

AMERICAN ASSOCIATION OF CEREAL CHEMISTS (AACC)

Approved Methods of the American Association of Cereal Chemists

(Application for copies should be addressed to the American Association of Cereal Chemists, 3340 Pilot Knob Road, St. Paul, MN 55121.)

AMERICAN DAIRY PRODUCTS INSTITUTE

Standards for Grades of Dry Milks Including Methods of Analysis, Bulletin 916

(Application for copies should be addressed to the American Dairy Products Institute, 130 No. Franklin St., Chicago, IL 60606.)

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS (AOAC)

Official Methods of Analysis of the Association of Official Analytical Chemists

(Application for copies should be addressed to the Association of Official Analytical Chemists, 1111 N. 19th Street, Suite 210, Arlington, VA 22209.)

THE UNITED STATES PHARMACOPEIAL CONVENTION, INC.

The United States Pharmacopeia - National Formulary

(Application for copies should be addressed to the United States Pharmacopeial Convention, Inc., 12601 Twinbrook Parkway, Rockville, MD 20852.)

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC.

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Associations, Inc., Traffic Department, 2200 Mill Road, Alexandria, VA 22314.)

UNIFORM CLASSIFICATION COMMITTEE

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Suite 1120, 222 South Riverside Plaza, Chicago, IL 60606.)

(Technical society and technical association documents are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document shall take precedence. Nothing in this document, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.3, 6.1, and 6.2).

3.2 Ingredients. All ingredients shall be clean, sound, wholesome, and free from foreign material, evidence of rodent or insect infestation, extraneous material, off-odors, off-flavors, and off-colors.

- * 3.2.1 Beef. The beef shall be from steers, heifers, or cows and shall be derived from any combination of the following recognizable primal and subprimal cuts: shoulder clods, chuck rolls, ribs, ribeyes, trimmed full loins, trimmed short loins, strip loins, sirloins, top sirloin butts, rounds (with heel out and shank off), top rounds, knuckles, and bottom rounds (with heel out). Recognizable cuts are those which, when compared to Institutional Meat Purchase Specifications (IMPS) cuts, have had no more than a minor amount of lean, fat, or bone removed or included from an adjacent cut. Except for tenderloins, rib-fingers (intercostal meat) and rough cuts, which may be excluded at the option of the contractor, all suitable lean meat shall be used. The beef shall be in the fresh-chilled state and shall be in excellent condition (i.e., exposed lean and fat surfaces shall be of a color and bloom normally associated with the class, grade, and cut of meat) and typical of meat that has been properly stored and handled. Cut surfaces and naturally

exposed lean surfaces shall show no more than slight darkening or discoloration due to dehydration, aging, or microbial activity. The fat shall show no more than a very slight discoloration due to oxidation or microbial activity. No odors foreign to fresh meat shall be present. Changes in color and odor characteristically associated with vacuum-packaged meat in excellent condition shall be acceptable. Also, the meat shall show no evidence of freezing, defrosting, or mishandling.

3.2.1.1 Boning and trimming. The fresh-chilled beef shall be boned and trimmed to remove objectionable material such as bone, cartilage, heavy connective tissue, etc. The boneless trimmed meat shall meet the limitations specified in 3.4 and table II.

* 3.2.1.2 Handling and storage. Handling and storage of the boned and trimmed beef prior to processing into the finished product shall be in accordance with the following requirements:

- a. Beef processed on the day of initial certification shall be maintained in the temperature range of 28° to 50°F (inclusive).
- b. Holding in the fresh-chilled state for not more than 4 days after certification is permitted, provided that the beef is maintained in the temperature range of 28° to 40°F (inclusive).
- c. Holding in the frozen state for not more than 120 days after placement in the freezer is permitted, provided that the beef is
 - placed in the freezer within 4 hours after certification,
 - frozen to 0°F or lower within 72 hours after placement in the freezer,
 - stored at 0°F or lower,
 - protected from freezer deterioration and damage,
 - stored in containers that are adequate to maintain product excellence, and
 - held after storage at an internal temperature not to exceed 40°F when further processing is resumed.

3.2.2 Water. Water used for formulation and washing shall conform to the National Primary Drinking Water Regulations.

3.2.3 Nitrogen. Nitrogen shall be U.S. Pharmacopeia grade and shall be water or liquid nitrogen pumped.

3.3 Preparation and processing.

- * 3.3.1 Beef preparation. After certification, the beef may be placed in casings or metal forms and may be tempered, or frozen and tempered, to facilitate dicing (grinding methods are not acceptable). The beef shall be machine diced at settings of 1 inch by 1 inch by 3/8 inch so that the final product will comply with 3.4. After dicing, both surface and seam fat shall not exceed 0.3 inch in thickness measured at any point (see 4.5.2.1).
- * 3.3.2 Frozen diced beef. Diced beef as specified in 3.3.1 may be frozen after dicing. The beef shall be packaged to protect the product from contamination or freezer burn. The beef shall be placed in a freezer within 8 hours after dicing and frozen to an internal product temperature of 0°F or below.
- * 3.3.3 Time and temperature limitations. The product shall be handled so as to comply with the following limitations:
 - a. Within 72 hours after certification, the diced pieces or beef logs shall be frozen to an internal temperature of 0°F or lower.
 - b. Maximum temperature of beef processed after day of initial certification shall be 40°F or lower at time of further processing.
 - c. Maximum internal temperature of product in frozen storage shall be 0°F.
 - d. Maximum internal temperature of product at time of starting dehydration shall be 0°F.
 - e. The time from freezing to the start of dehydration may be extended to 45 days if, after freezing, the product is vacuum packaged and heat sealed in moisture impermeable material having an oxygen transmission rate of not more than 10 cc of oxygen per square meter per 24 hours at 73°F at 0 percent relative humidity.
- 3.3.4 Dehydration. The product shall be freeze dehydrated at an absolute pressure not to exceed 1.5 millimeters of mercury except that momentary increases in pressure due to operation factors may be permitted provided that no thawing of the product or moisture drip on the product occurs. The product temperature, as indicated by suitable instruments, shall be not more than 150°F. If the platen temperature is maintained at 155°F or below, the product temperature may be disregarded. After dehydration is completed, the pressure shall be equalized to atmospheric level with nitrogen, and the product shall be immediately packaged as specified in 5.1. In no case shall more than 16 hours elapse between the time the chamber is opened and the time the diced

beef is completely unit packed. During this interim period, the product shall be adequately protected from oxygen and moisture by either holding under a nitrogen atmosphere with a maximum of 2.0 percent oxygen or under a vacuum of at least 27 inches of mercury for the entire period. If vacuum is used, it shall be broken with nitrogen.

- * 3.4 Finished product requirements. The finished product shall comply with the following requirements:

Dehydrated product. (If compliance with a requirement is questionable in the dry state, the product in question may be rehydrated for further examination.)

- a. There shall be no foreign material, such as, but not limited to, dirt, insects, insect parts, hair, wood, paper, paint, glass, or metal.
- b. There shall be no foreign odor or flavor, such as, but not limited to, burnt, scorched, stale, sour, rancid, musty, or moldy.
- c. There shall be no color foreign to the product.
- d. There shall be no evidence of incomplete dehydration such as wet or soft spots.
- e. There shall be no evidence of faulty dehydration procedures such as glazed areas larger than 1/2 inch in any dimension or dark-colored cores of any dimension.
- f. Moisture content of the dehydrated product shall not exceed 2.0 percent.
- g. At least 90 percent of the finished product shall remain on a U.S. Standard 1/4 inch sieve.
- h. Oxygen content in the headspace gas shall not exceed 2.0 percent.

Rehydrated product.

- i. When the product is rehydrated in an excess of water at a temperature of 90° to 100°F for 30 minutes, drained, and grilled for 1 minute per side on a 400°F grill, the resulting product shall have the flavor, odor, and texture considered as normal for grilled beef.

- j. When the product is rehydrated and grilled as in i. above, then cut through twice at right angles, the cross-section shall show no unhydrated spots larger than 0.3 inch in any dimension. Since gristle, gelatinous material, and connective tissue frequently tend to impede proper rehydration, callous-like areas ascribable to these conditions shall not be considered evidence of improper rehydration.

* 3.4.1 Palatability. The product shall be equal to or better than the approved preproduction sample (see 6.2) in palatability and overall appearance.

3.5 Plant qualification. The beef component and the finished product shall originate and be produced, processed, and stored in plants regularly operating under Meat and Poultry Inspection Regulations of the U.S. Department of Agriculture.

3.6 Federal Food, Drug, and Cosmetic Act. All deliveries shall conform in every respect to the provisions of the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder.

4. QUALITY ASSURANCE PROVISIONS

4.1 Contractor's responsibility. Inspection and acceptance by the USDA shall not relieve the contractor of obligation and responsibility to deliver a product complying with all requirements of this document. The contractor shall assure product compliance prior to submitting the product to the USDA for any inspection.

4.2 Inspection and acceptance service. Product acceptability shall be determined by the USDA. The USDA will determine the degree of supervision necessary to assure compliance with the requirements of this document.

4.3 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.4).
- b. Quality conformance inspection (see 4.5).

4.4 First article inspection. When a first article is required (see 6.1), it shall be inspected in accordance with the quality assurance provisions of this document and evaluated for overall appearance and palatability. Any failure to conform to the quality assurance provisions of this document or any appearance or palatability failure shall be cause for rejection of the first article.

4.5 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

4.5.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this document or applicable purchase document.

4.5.1.1 Beef examination for condition and cut. All beef shall be examined in either the bone-in or boneless state for conformance to the condition and cut requirements in 3.2.1. Cuts initially examined in the boneless state shall be in the form of whole boneless recognizable cuts. Any nonconforming beef shall be rejected.

- * 4.5.1.2 Boned and trimmed beef examination. After boning and trimming and prior to any further processing or to any freezing, the beef shall be examined for the defects listed in table II. The lot size expressed in terms of pounds shall be declared to the Agricultural Marketing Service (AMS) agent by the contractor. However, the AMS agent reserves the right to declare as a lot any portion of a declared lot, if, in his or her opinion, that portion may be out of compliance with any requirement. The sample unit shall be a minimum of 12 pounds of adjacent boneless beef. The sample size shall be as specified in table I. If all or a portion of the sample unit falls within a larger cut, the entire cut shall be examined. Failure of the beef to meet the acceptance criteria as indicated in table I shall be cause for rejection of the lot. Except for beef rejected because of freezing, defrosting, or not being in excellent condition, the beef may be reworked by the contractor and reoffered for examination. For reexamination, the sampling plan used shall be the one in table I designed for the next larger lot size than the one under which the lot was initially rejected. Beef shall not be reexamined more than one time.

TABLE I. Sampling plan for boned and trimmed beef

Lot size (pounds)	Sample size (No. of sample units)	Defect categories			
		Major		Minor	
		AC	RE	AC	RE
500 or less	20	2	3	5	6
501 to 1,200	32	3	4	7	8
1,201 to 3,200	50	5	6	10	11

TABLE I. Sampling plan for boned and trimmed beef - Continued

Lot size (pounds)	Sample size (No. of sample units)	Defect categories			
		Major		Minor	
		AC	RE	AC	RE
3,201 to 10,000	80	7	8	14	15
10,001 to 38,000	125	10	11	21	22
Reinspection of 10,001 to 38,000	200	14	15	21	22

TABLE II. Boned and trimmed beef defects 1/ 2/

Category		Defect
<u>Major</u>	<u>Minor</u>	
101		Presence of popliteal, prescapular, prefemoral, or any exposed lymph gland measuring 0.5 inch or more in any dimension
102		Presence of blood clot measuring 1.0 inch or more in any dimension
	201	Presence of blood clot measuring 0.5 inch or more but less than 1.0 inch in any dimension
103		Presence of bruise measuring 1.0 inch or more in any dimension
	202	Presence of bruise measuring 0.5 inch or more but less than 1.0 inch in any dimension
104		Presence of bone measuring 0.3 inch or more in any dimension

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TABLE II. Boned and trimmed beef defects 1/ 2/ - Continued

Category		Defect
<u>Major</u>	<u>Minor</u>	
105		Presence of cartilage measuring 0.5 inch or more in any dimension
106		Presence of backstrap measuring 1.0 inch or more in one dimension and 0.2 inch or more in a second dimension (when measured at right angles to each other)
	203	Presence of backstrap measuring 0.5 inch or more but less than 1.0 inch in one dimension and 0.2 inch or more in a second dimension (when measured at right angles to each other)
107		Presence of heavy connective tissue (for example, on the surface of the outside round adjacent to the knuckle, along the skin surface of the strip loin or the gracilis membrane) measuring 2.0 square inches or more
	204	Presence of heavy connective tissue (for example, on the surface of the outside round adjacent to the knuckle, along the skin surface of the strip loin or gracilis membrane) measuring 0.5 square inches or more but less than 2.0 square inches
	205	Presence of heavy connective tissue on lower edge of short plate or flank
	206	Presence of heavy connective (abdominal tunic) tissue on the flank measuring 1.0 inch or more in any dimension
	207	Presence of membranous portion of diaphragm or membranous covering from skirt, flank, or abdominal section of short plate measuring 3 square inches or more

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TABLE II. Boned and trimmed beef defects 1/ 2/ - Continued

Category		Defect
<u>Major</u>	<u>Minor</u>	
108		Presence of knuckle cover
109		Presence of kidney, pizzle eye, prepubic tendon, thymus gland, or hanging tender measuring 1.0 inch or more in one dimension and 0.2 inch or more in a second dimension (when measured at right angles to each other)
	208	Presence of kidney, pizzle eye, prepubic tendon, thymus gland, or hanging tender measuring less than 1.0 inch in the longest dimension and 0.2 inch or more in a second dimension (when measured at right angles to each other)
	209	Presence of calcified (scratchy) periosteum measuring 2.0 square inches or more
	210	Presence of shank, clod, knuckle, or bottom (outside) round with tendinous end showing less than 75 percent lean tissue on a cross-sectional cut surface
	211	Presence of dehydrated surface measuring 1.0 square inch or more
	212	Presence of discolored meat (including blood discolored neck meat) measuring 1.0 square inch or more
	213	Presence of exposed blood vessel measuring 1.0 inch or more in any dimension
	214	Presence of cod, udder, kidney, or pelvic fat

1/ Determination of wholesomeness and acceptability of product with respect to the presence of foreign material (e.g. glass, dirt, insect parts, hair, wood, metal) shall be made by a Meat and Poultry Inspection Operations employee.

2/ Evidence of freezing or defrosting or product not in excellent condition shall cause rejection of the lot.

* 4.5.1.3 Ingredient and component examination. Conformance of ingredients and components to identity, condition, and other requirements specified in 3.2 shall be certified by the ingredient supplier or ingredient manufacturer, or compliance be verified by examination of pertinent labels, markings, US Grade Certificates, certificates of analyses, or other such valid documents acceptable to the inspection agency. If necessary, each ingredient shall be examined organoleptically or inspected according to generally recognized test methods, such as the standard methods described in the Official Methods of Analysis of the Association of Official Analytical Chemists and in the Approved Methods of the American Association of Cereal Chemists, to determine conformance to the condition requirements. Any nonconformance to an identity, condition, or other requirement shall be cause for rejection of the ingredient or component lot or of any involved product.

4.5.1.4 Unfilled can inspection. Conformance of unfilled cans to the requirements specified in 5.1.1 shall be determined by examination of certificates of conformance or of other valid documents. Any nonconformance shall be cause for rejection of the can lot or of any involved product.

4.5.2 In-process inspection. In-process examination shall be performed to determine conformance to the preparation, processing, filling, sealing, and packing requirements. Any nonconformance revealed by actual examination or by review of records of time, temperature, and formulation or of other valid documents shall be cause for rejection of the involved product.

4.5.2.1 In-process examination for fat thickness. The beef dices, prior to freezing and dehydration, shall be examined for conformance to both surface and seam fat thickness requirements in 3.3.1. Any sample unit in which more than 10 percent of the dices, by weight, contain surface or seam fat exceeding 0.3 inch in thickness measured at any point shall be classified as a minor defect. The lot size shall be expressed in pounds. The sample unit shall be 1 pound of diced beef. The inspection level shall be S-4 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 10.0.

* 4.5.3 Product inspection. The finished product shall be inspected for the defects listed in table III. Each inspection lot shall consist of 500,000 or less cans of the product. The sample size shall be 13 cans of product selected at random from the inspection lot. The finding of one or more major defects or three or more minor defects shall be cause for rejection of the lot.

TABLE III. Product defects 1/

Category		Defect
<u>Major</u>	<u>Minor</u>	<u>Dehydrated product</u>
	201	Net weight less than 18.75 ounces <u>2/</u>
101		Evidence of incomplete dehydration (i.e., wet or soft spots)
102		Evidence of faulty dehydration (i.e., glazed area larger than 1/2 inch in any dimension)
103		Presence of dark-colored core of any dimension
104		Less than 90 percent by weight remains on a U.S. Standard 1/4 inch sieve <u>3/</u>
		<u>Rehydrated product</u> <u>4/</u>
105		Flavor or aroma not considered normal for grilled beef
106		Cross-section shows unrehydrated spots larger than 0.3 inch in any dimension

1/ The presence of foreign material (e.g., dirt, insects, insect parts, hair, wood, paper, paint, glass, or metal), foreign odor or flavor (e.g., burnt, scorched, stale, rancid, musty, or moldy), or foreign color shall be cause for rejection of the lot.

2/ If the sample average net weight is less than 19.0 ounces, the lot shall be rejected.

3/ Place the contents of one can on a 12-inch or 19-inch diameter U.S. Standard 1/4 inch sieve and mechanically shake for 2 minutes.

4/ Ten pieces selected at random from each can shall be rehydrated in an excess of water at approximately 90° to 100°F for 30 minutes and grilled for 1 minute on each side on a greased griddle at 400°F. Five pieces shall be used to determine flavor and aroma. Each of the five remaining pieces shall be sliced twice at right angles to the cross-section of the cube. The cross-sectional surface of the slices shall be examined for unrehydrated areas. Callous-like area ascribable to gelatinous material and connective tissue hindering rehydration in meats shall not be considered evidence of improper rehydration.

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4.5.4 Leakage testing. Eight filled and sealed cans shall be selected at random from the lot and tested for leaks as specified in 4.6.1 for conformance to the requirements in 5.1.1. Any leak shall be cause for rejection of the lot.

4.5.5 Moisture and oxygen testing. The finished product shall be tested as specified in 4.6.2 and 4.6.3 for conformance to the moisture and oxygen requirements in 3.4. The sample shall be 12 filled and sealed cans selected at random from the lot regardless of the lot size. Test results shall be reported to the nearest 0.1 percent for each can. Any result exceeding the specified maximum shall be cause for rejection of the lot.

4.5.6 Can condition examination. Examination of filled and sealed cans shall be in accordance with the United States Standards for Condition of Food Containers, except that inspection for labeling shall be in accordance with MIL-L-1497 (see 5.4.1).

4.5.7 Shipping container examination. When shipping containers are required to be in accordance with PPP-B-636, examination for defects in construction, closure, and reinforcement shall be in accordance with the appendix of PPP-B-636. In addition, the following defects shall be classified as follows:

Major: National stock number, item description, contract number or date of
pack markings missing, incorrect, or illegible
Reinforcement with nonmetallic strapping or tape is not used

Minor: Other required markings missing, incorrect, or illegible
Arrangement or number of cans not as specified
Not snug-fitting

Level C shipping containers shall be examined only for the marking, arrangement, and number of cans defects specified above and for the closure method specified in 5.2.3.

4.5.8 Unit load inspection. Inspection of unit loads shall be in accordance with quality assurance provisions of MIL-L-35078.

4.6 Methods of inspection.

4.6.1 Leakage test. The sealed cans shall be tested for leaks as follows: Submerge can in water contained in a vacuum desiccator or other device that produces equivalent results. Draw a vacuum of 10 inches of mercury, hold for 30 seconds, and observe for leakage. A leak consists of a steady progression of bubbles. Isolated or static bubbles caused by entrapped air on seams or surfaces of cans are not considered as signs of leaks.

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4.6.2 Moisture test. Moisture shall be determined in accordance with the Moisture-Drying in Vacuum Method in the Meat Section of the Meat and Meat Products Chapter in the Official Methods of Analysis of the AOAC, except that the temperature, time, and pressure cycle shall be 70°C for 16 hours at an absolute pressure of 100 mm of mercury.

- * 4.6.3 Oxygen test. Oxygen content in head space gas shall be determined in accordance with the American Dairy Products Institute, Publication Bulletin 916, Standards for Grades of Dry Milks, Including Methods of Analysis: Determination of Oxygen. Alternatively, the head space oxygen content may be determined by an Instrumentation Laboratories Oxygen Analyzer or equivalent instrument. The lot shall be rejected if any of the cans exceeds 2.0 percent oxygen. When referee testing is necessary, the American Dairy Products Institute method shall be followed.

5. PACKAGING

5.1 Preservation. The product shall be preserved in accordance with level A or C, as specified (see 6.1 and 6.3).

5.1.1. Level A. A net weight of 19 ounces of the product shall be unit packed in a 603 by 700 open-top style, round, metal can, with soldered or welded side seam and compound-lined, double-seamed ends. A minus 1/4 ounce tolerance will be allowed in any one container provided the average net weight of the cans inspected is not less than 19 ounces. The can shall be made throughout from not less than commercial 0.25-pound per base box electrolytic tin plate. The can shall have a sufficient base plate weight and temper to protect the product during shipment and storage. The can shall be coated outside with a coating conforming to type I or when specified (see 6.1) type III of TT-C-495. The product shall be gas packed by first removing the air from the filled can and replacing it with nitrogen. The cans shall be hermetically sealed and shall not show leakage when tested in accordance with 4.5.4.

5.1.2 Level C. The product shall be preserved as specified in 5.1.1 except that cans with or without commercial exterior coating will be acceptable. Alternatively, cans may be made from 0.20-pound per base box electrolytic tin plate provided the cans have an exterior commercial coating.

5.2 Packing. Six cans of the product, preserved as specified in 5.1, arranged three in length, two in width, and one in depth shall be packed in a snug-fitting shipping container in accordance with level A, B, or C as specified (see 6.1 and 6.3).

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5.2.1 Level A packing. The shipping container shall be a fiberboard box constructed and closed in accordance with style RSC, V2s of PPP-B-636. Each fiberboard box shall be reinforced with nonmetallic strapping of pressure-sensitive adhesive filament-reinforced tape in accordance with the appendix of PPP-B-636. Shipping containers shall be arranged in unit loads in accordance with MIL-L-35078 for the type and class of load specified (see 6.1). When unit loads are strapped, strapping shall be limited to nonmetallic strapping, except for type II, class F loads.

5.2.2 Level B packing. The shipping container shall be a fiberboard box constructed and closed in accordance with style RSC, grade W5c of PPP-B-636. Each fiberboard box shall be reinforced with nonmetallic strapping or pressure-sensitive adhesive filament-reinforced tape in accordance with the appendix of PPP-B-636.

5.2.3 Level C packing. The shipping container shall be in accordance with National Motor Freight Classification and Uniform Freight Classification, as applicable, except that the closure of fiberboard boxes shall be in accordance with method II as specified in the appendix of PPP-B-636.

5.3 Unit loads. When specified (see 6.1), the product packed as specified in 5.2.2 and 5.2.3 shall be arranged in unit loads in accordance with MIL-L-35078 for the type and class of load specified. When unit loads are strapped, the strapping shall be limited to nonmetallic strapping except for type II, class F loads.

5.4 Labeling and marking.

5.4.1 Cans. Cans shall be labeled in accordance with MIL-L-1497 and shall contain the following information:

BEEF, DICED, DEHYDRATED, UNCOOKED

Net weight
Name and address of supplier
Date of pack
Directions for use (see 5.4.1.1)
Gas-packed

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5.4.1.1 Directions for use (603 by 700 can). The following directions for use shall be either lithographed on the body or on one end of the can or printed on the label:

DIRECTIONS FOR USE

Rehydrate beef immediately after opening can.

Cover beef with an excess of lukewarm salted water (90° to 100°F).

(Allow 3 quarts water and 1 tablespoon salt per No. 10 can beef.)

Soak 30 minutes or until all pieces are rehydrated. Drain well.

Use in any recipe requiring diced beef, adjusting cooking time of meat to 1 hour.

Use 1 pound dehydrated beef for 3 pounds fresh raw diced beef.

5.4.2 Shipping containers. Shipping containers shall be marked in accordance with MIL-STD-129.

5.4.3 Unit load marking. Unit loads shall be marked in accordance with MIL-L-35078.

6. NOTES

6.1 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this document.
- b. When a first article is required (see 3.1, 4.4, and 6.2).
- c. Levels of preservation and packing required (see 5.1 and 5.2).
- d. When type III exterior coating of cans is desired (see 5.1.1).
- e. Type and class of unit load required (see 5.2.1 and 5.3).

6.2 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should include specific instructions in all acquisition instruments regarding arrangements for selection, inspection, and approval of the first article.

6.3 Appropriate level of pack. Based on conditions known or expected to be encountered during shipment, handling, and storage of the specific item being procured, the contracting officer should select the appropriate level of pack in accordance with the criteria established in AR 700-15/NAVSUPINST/4030.28/AFR 71-6/MCO 4030.14D/DSAR 4145.7.

* 6.4 Subject term (key word) listing.

Beef, diced
Dehydrated food
Rations, operational

6.5 Changes from previous issue. The margins of this document have been marked with an asterisk (*) to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only, and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content, as written, irrespective of the marginal notations and relationship to the last previous issue.

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Preparing activity:

Army - GL
Project No. 8905-B042

Review activities:

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Navy - MC, MS
DP - SS

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